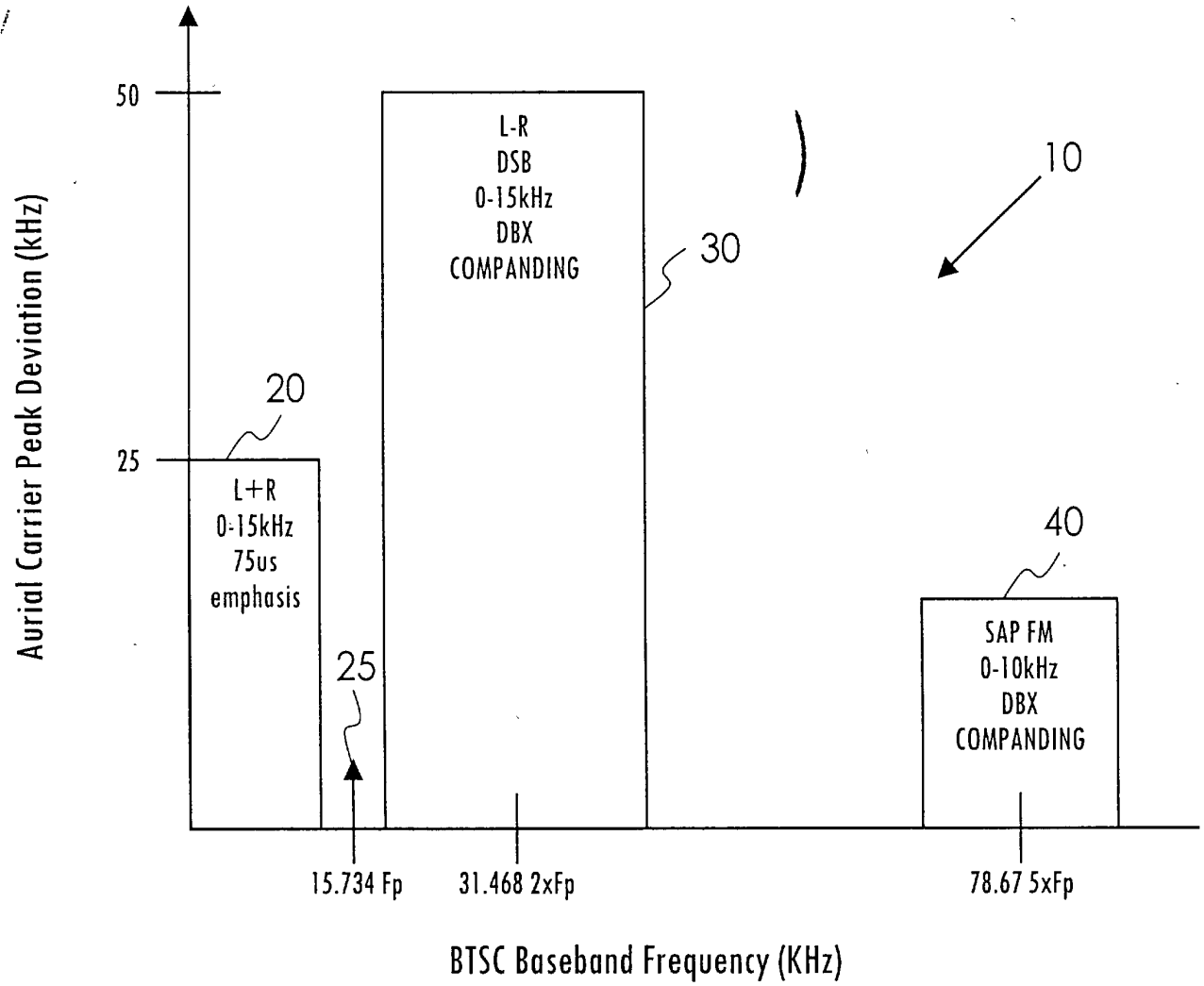
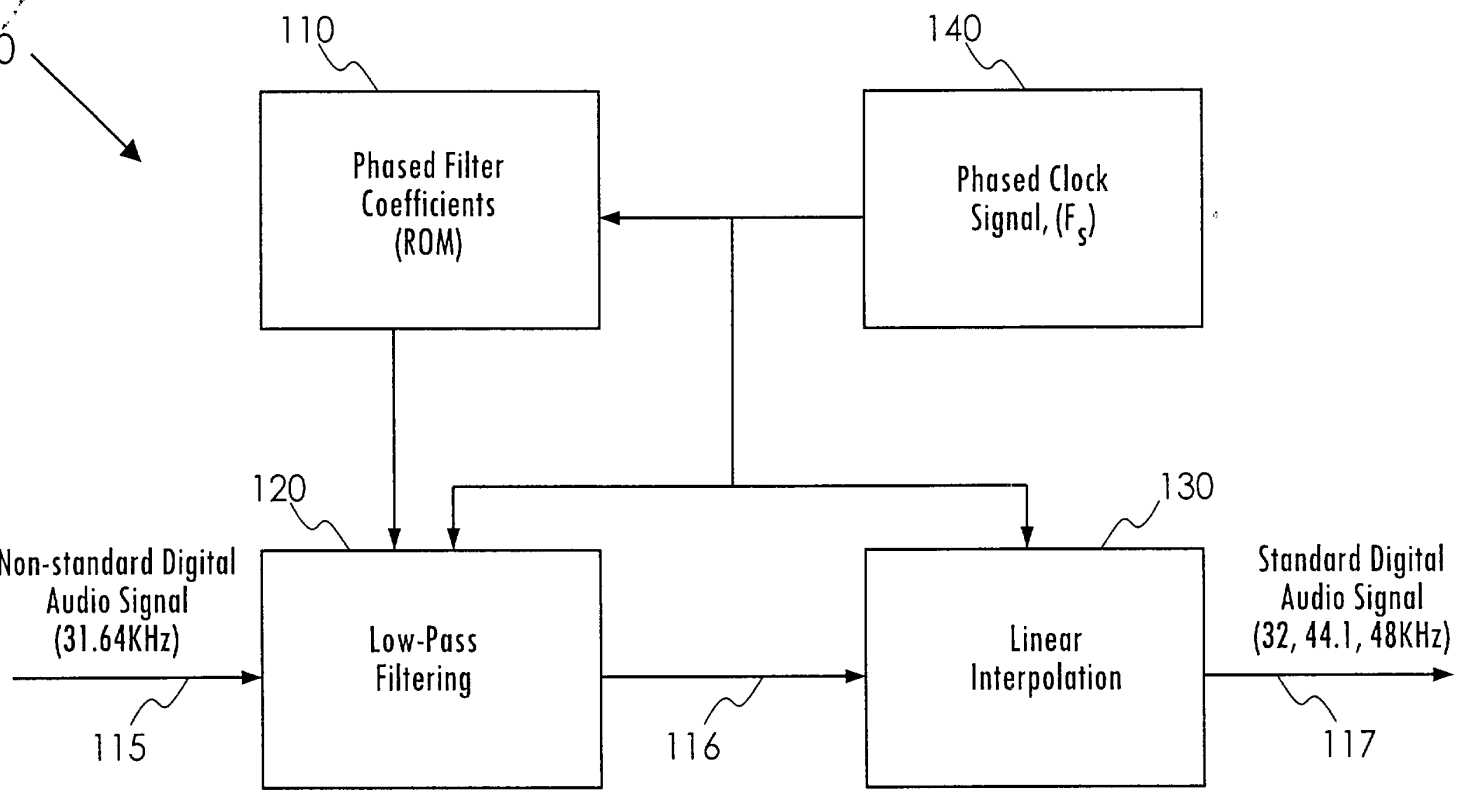

Aurial Carrier Peak Deviation (kHz)
50
25
L+R
0-15kHz
75us
emphasis
20
25
L-R
DSB
0-15kHz
DBX
COMPANDING
30
10
40
SAP FM
0-10kHz
DBX
COMPANDING
15.734 Fp
31.468 2xFp
78.67 5xFp
BTSC Baseband Frequency (KHz)

Fig. 1



Sample Rate Conversion (SRC)

Fig. 2

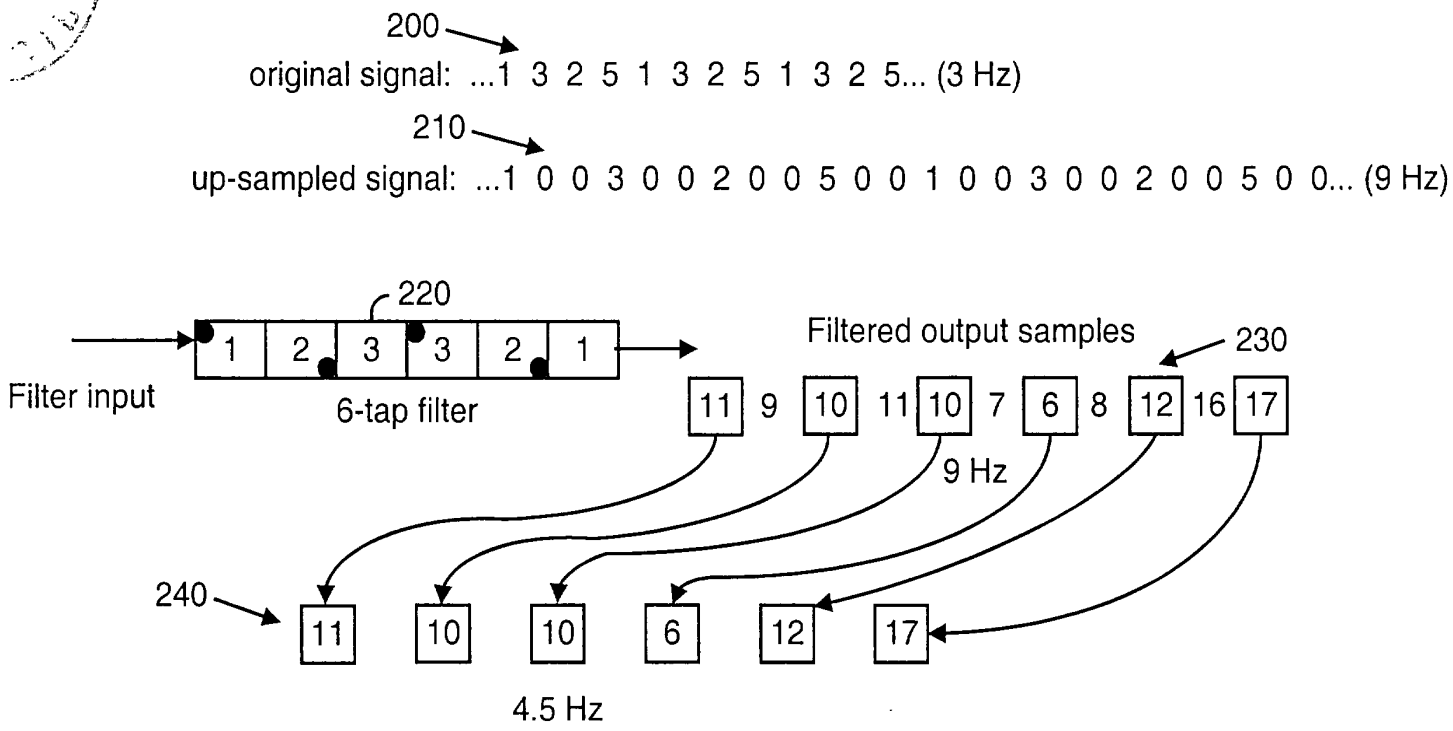

200
original signal: ...1 3 2 5 1 3 2 5 1 3 2 5... (3 Hz)
210
up-sampled signal: ...1 0 0 3 0 0 2 0 0 5 0 0 1 0 0 3 0 0 2 0 0 5 0 0... (9 Hz)
220
1 2 3 3 2 1
Filter input
6-tap filter
Filtered output samples
230
11 9 10 11 10 7 6 8 12 16 17
9 Hz
240
11 10 10 6 12 17
4.5 Hz

Fig. 3

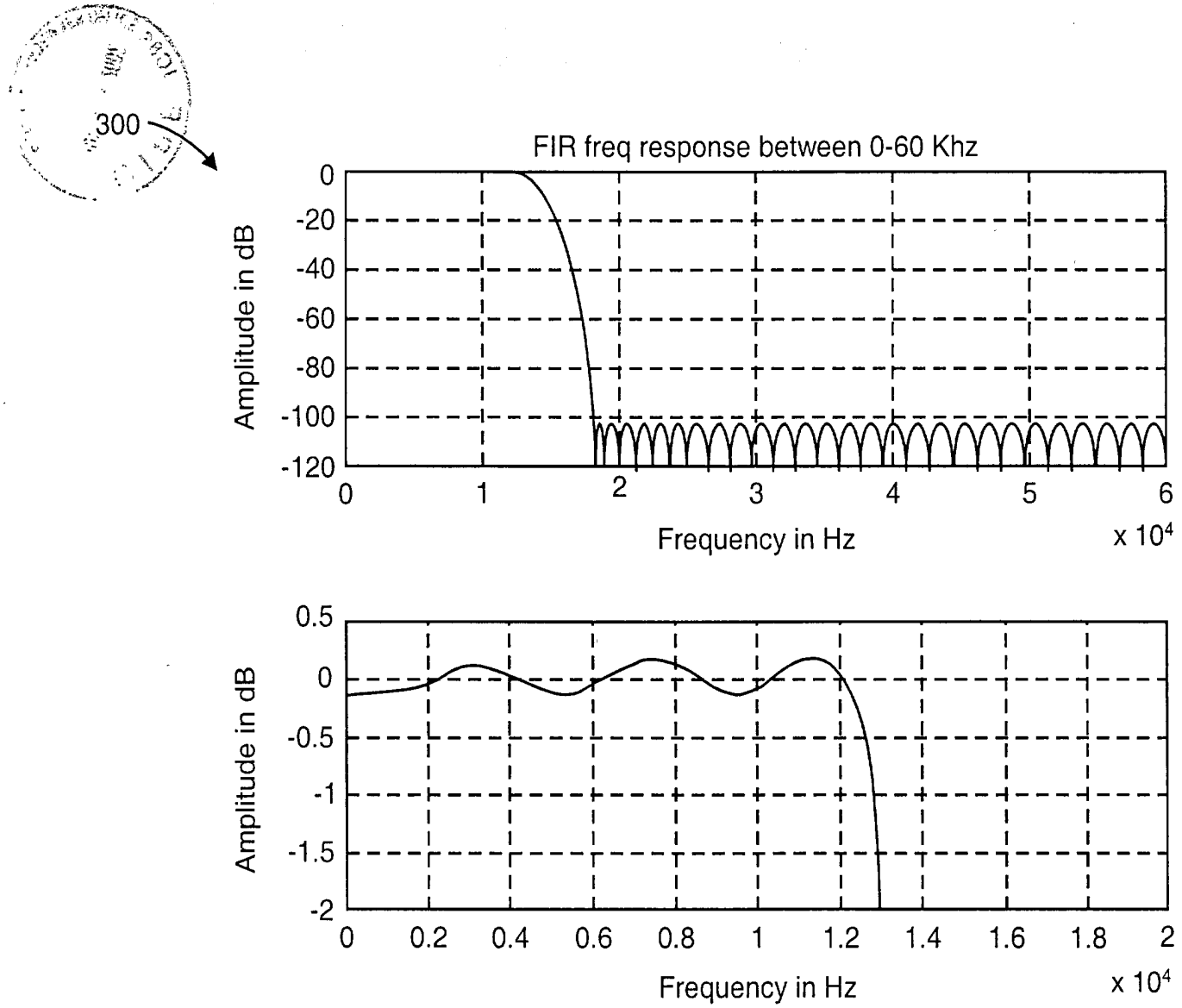

300
FIR freq response between 0-60 Khz
Amplitude in dB
0
-20
-40
-60
-80
-100
-120
0
1
2
3
4
5
6
Frequency in Hz
x 10^4
Amplitude in dB
0.5
0
-0.5
-1
-1.5
-2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Frequency in Hz
x 10^4

Fig. 4

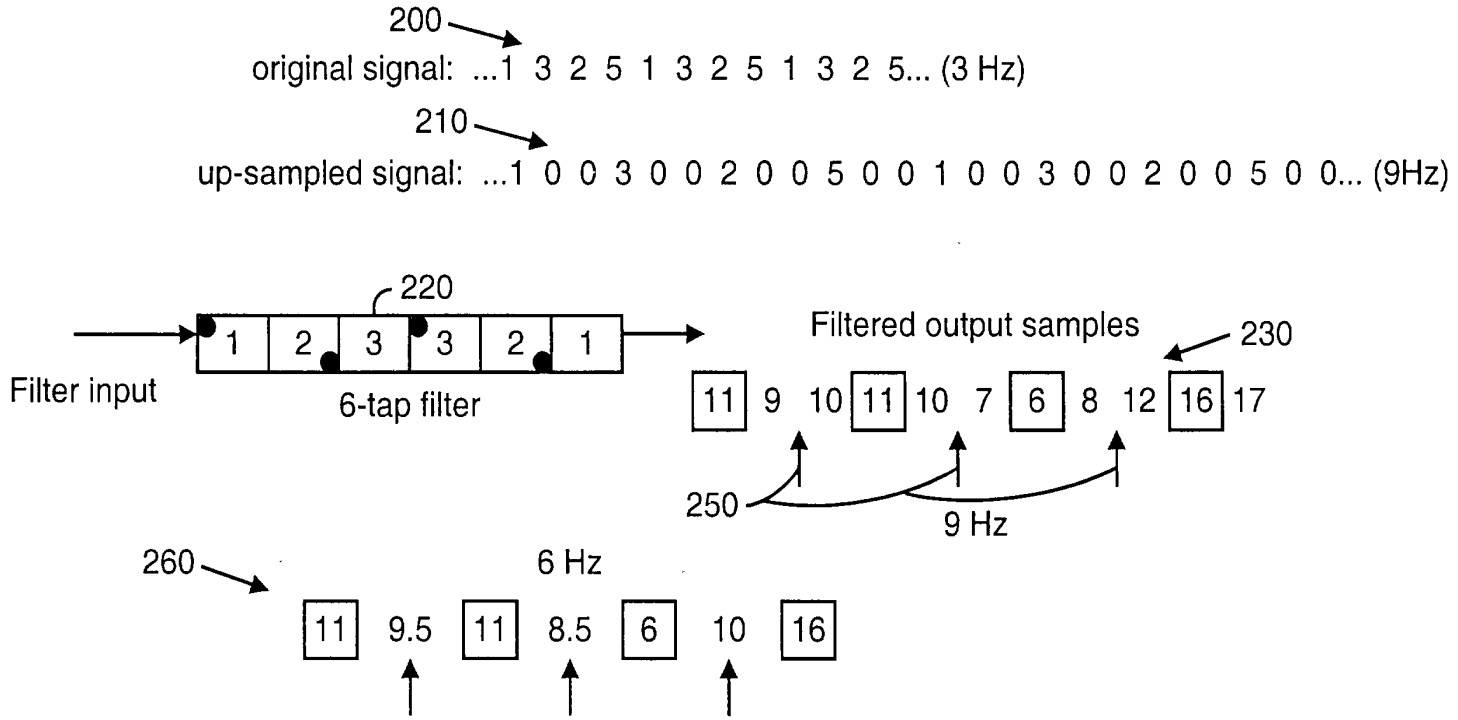

200
original signal: ...1 3 2 5 1 3 2 5 1 3 2 5... (3 Hz)
210
up-sampled signal: ...1 0 0 3 0 0 2 0 0 5 0 0 1 0 0 3 0 0 2 0 0 5 0 0... (9Hz)
220
1 2 3 3 2 1
Filter input
6-tap filter
Filtered output samples
230
11 9 10 11 10 7 6 8 12 16 17
250
9 Hz
260
6 Hz
11 9.5 11 8.5 6 10 16

Fig. 5

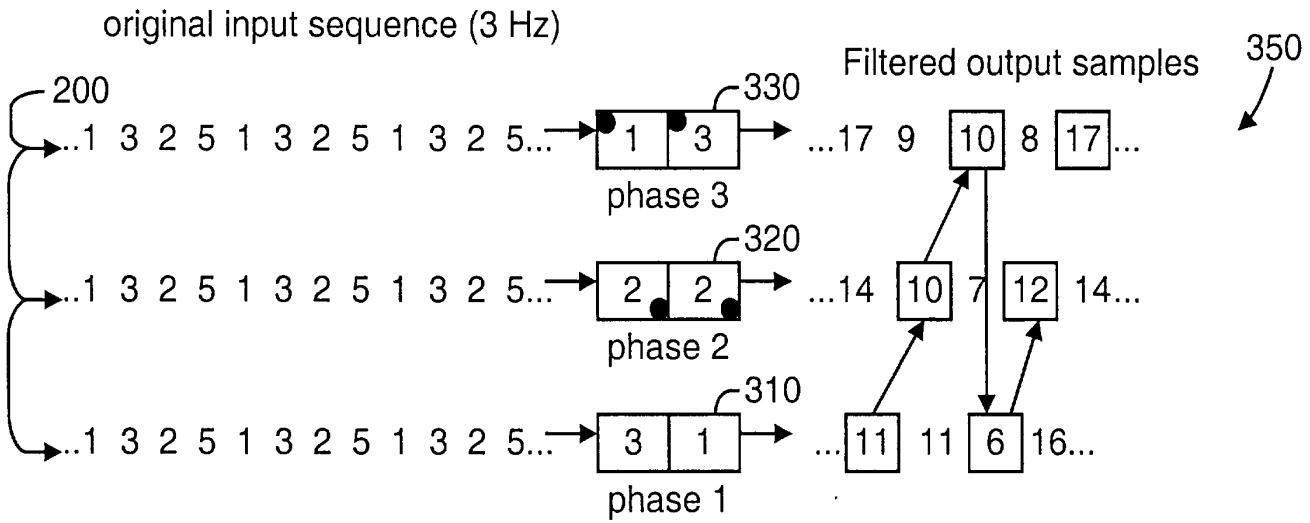

original input sequence (3 Hz)
200
..1 3 2 5 1 3 2 5 1 3 2 5...
330
1 3
phase 3
320
2 2
phase 2
310
3 1
phase 1
Filtered output samples
350
...17 9 10 8 17...
...14 10 7 12 14...
... 11 11 6 16...

Fig. 6